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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,730	09/12/2003	Abraham Gross	Q77482	4923
72875	7590	05/05/2008		
SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037				
EXAMINER				
HEINRICH, SAMUEL M				
ART UNIT		PAPER NUMBER		
3742				
NOTIFICATION DATE		DELIVERY MODE		
05/05/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com
kglyndman@sughrue.com
USPatDocketing@sughrue.com

Office Action Summary

Application No.

10/660,730

Applicant(s)

GROSS ET AL.

Examiner

Samuel M. Heinrich

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 188-191 and 314-317 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 188-191 and 314-317 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 188-191 and 314-317 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,515,257 to Jain et al in view of USPN 5,463,200 to James et al in view of USPN 6,977,775 to Sasaki et al in view of JP358179816A in view of USPN 5,498,850 to Das.

Jain et al shows (Figure 1) laser source 26 which provides input to microlens array 10 and micro-mirror array 12 directs or steers the beamlets independently.

James et al describe (column 2, lines 1-9) the laser spot can be adjusted by changing the focal length of the lens or by moving the workpiece. James et al describe

(Abstract) a description of splitting the beam into a plurality of beams and independent focusing with respect to how each beamlet strikes the workpiece. James et al describe (column 8, lines 14+) the use of arrays of electro-optical and acousto-optical deflection devices.

Sasaki et al schematically show a focus element (e.g., Figure 7) of a sub-beam, not an f-theta optical element, and which provides independent focus of individual beams. Sasaki et al describe (column 7, lines 39-46) an "optical system for adjusting the beam spots of the sub-beams SB". Sasaki et al describe (column 8, lines 7-15) "focusing units 59 are movable within an allowable range".

JP358179816A describes (Abstract) adjusting the focal length with a focusing device having a moveable optical element.

The use of a movable optical element for independently optically focusing a beam in a system with independent beam steering would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art in order to provide a desired beam spot accuracy on a workpiece.

Das describes (column 4, lines 31-37) laser drilling and describes the drilling can be performed in the same operation as in application of laser beam for melting.

The combination of laser lens array and laser focus elements would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because different operations, such as drilling or melting, are well known to be performed by the same apparatus.

Claims 190 and 191 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,515,257 to Jain et al in view of USPN 5,463,200 to James et al in view of USPN 6,977,775 to Sasaki et al in view of JP358179816A in view of USPN 5,498,850 to Das as applied to claim 189 above, and further in view of JP406043505A or JP02003051142A.

Both JP406043505A and JP02003051142A describe well known acousto-optic deflecting elements. The use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art for modulating the beam.

Claims 188-191 and 314-317 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,515,257 to Jain et al in view of USPN 5,463,200 to James et al in view of USPN 6,989,546 to Loschner et al in view of USPN 6,433,348 to Abboud et al in view of JP358179816A in view of USPN 5,498,850 to Das.

Jain et al shows (Figure 1) laser source 26 which provides input to microlens array 10 and micro-mirror array 12 directs or steers the beamlets independently.

James et al describe (column 2, lines 1-9) the laser spot can be adjusted by changing the focal length of the lens or by moving the workpiece. James et al describe (Abstract) a description of splitting the beam into a plurality of beams and independent focusing with respect to how each beamlet strikes the workpiece. James et al describe (column 8, lines 14+) the use of arrays of electro-optical and acousto-optical deflection devices.

Loschner et al show and describe (e.g., column 6, lines 57-61) focus elements, not f-theta optical elements, which provide independent focus of individual beams.

Abboud et al describe (column 6, lines 46-65) equivalent electron lens and optical lens depending on the beam tool being focused.

JP358179816A describes (Abstract) adjusting the focal length with a focusing device having a moveable optical element.

The use of a movable optical element for independently optically focusing a beam in a system with independent beam steering would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art in order to provide a desired beam spot accuracy on a workpiece.

Das describes (column 4, lines 31-37) laser drilling and describes the drilling can be performed in the same operation as in application of laser beam for melting.

The combination of laser lens array and laser focus elements would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because different operations, such as drilling or melting, are well known to be performed by the same apparatus.

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Both JP406043505A and JP02003051142A describe well known acousto-optic deflecting elements. The use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art for modulating the beam.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Quick describes laser inscribing, writing, drilling, and melting.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose number is 571-272-1175.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu B. Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samuel M Heinrich/
Primary Examiner, Art Unit 3742